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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,554	06/02/2006	Akihiro Taniguchi	043890-0791	6219

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MCDERMOTT WILL & EMERY LLP  
600 13TH STREET, NW  
WASHINGTON, DC 20005-3096

EXAMINER
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TORRES RUIZ, JOHALI ALEJANDRA

ART UNIT	PAPER NUMBER
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2858

MAIL DATE	DELIVERY MODE
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08/31/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,554	<b>Applicant(s)</b> TANIGUCHI ET AL.	
	<b>Examiner</b> JOHALI A. TORRES RUIZ	<b>Art Unit</b> 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 7-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This office action has been issued in response to the amendment filed on May 20, 2010.

2. Claims 3 and 6 have been cancelled by applicant.

3. Claims 1-2, 4-5 and 7-11 are pending.

4. Applicant's arguments have been carefully and respectfully considered.

Rejections have been maintained where arguments were not persuasive.

5. Also, new rejections based on the amended claims have been set forth.

Accordingly, claims 1-2, 4-5 and 7-11 are rejected, and this action is made FINAL, as necessitated by amendment.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**8. Claims 1, 4-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakakibara et al. (U.S. Publication Number 2003/0178968) and Iwaizono et al. (U.S. Patent Number 6,714,882).**

9. Claims 1 and 9-10: Sakakibara teaches a notification portion (44); a power supply (58) for supplying electric power to at least the notification portion (44) (Fig.6); a temperature detection portion (47) for detecting a temperature of the power supply (58); a voltage detection portion (43) for detecting a voltage of the power supply (58) (Par.63); a memory portion for storing the temperature and a variety of voltages (Par.64 and 91); and a forced discharge portion (42) for recognizing an abnormality of the power supply and for forcedly discharging the power supply until the voltage of the power supply (58) detected by the voltage detection portion reaches a predetermined voltage (Par.68), and for electrifying the notification portion (44) by the power supply, the control portion further configured to make the notification portion (44b) continuously notify a message indicating that the abnormality is being avoided while the power supply (58) is forcedly being discharged (Par.59) wherein the forced discharge portion includes a control portion (41) configured to make the memory portion store data indicating that forced discharge is completed when the forced discharge is completed (Par.69), and to make the notification portion notify a message indicating that the abnormality is avoided (Par.61).

Sakakibara does not explicitly teach the power supply includes a lithium-ion secondary battery; and a forced discharge portion recognizes an abnormality of the power supply when the temperature of the power supply detected by the temperature detection portion is not lower than a first temperature and the voltage of the power supply detected by the voltage detection portion is not lower than a first voltage when a power feed from the power supply to the portable equipment for operation of the portable equipment is off, for forcibly discharging the power supply until the voltage of the power supply detected by the voltage detection portion reaches a second voltage smaller than the first voltage; the control portion configured to make the notification portion notify a message indicating that the abnormality has been avoided based on the data indicating that the forced discharge is completed when the power feed from the power supply to the portable equipment for operation of the portable equipment becomes turned on.

Iwaizono teaches a power supply system including a lithium-ion secondary battery (10) (Col.4, Lines 33-34); a temperature detection portion (52) for detecting a temperature of the power supply (10) (Col.5, Lines 8-9); a voltage detection portion (48) for detecting a voltage of the power supply (10) (Col.7, Lines 33-36); and a forced discharge portion for recognizing an abnormality of the power supply when the temperature of the power supply detected by the temperature detection portion is not lower than the first temperature (Col.8, Lines 13-15) and the voltage of the power supply detected by the voltage detection portion is not lower than the first voltage (Col.8, Lines 11-13) and for forcibly discharging the power supply until the voltage of the power

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supply detected by the voltage detection portion reaches the second voltage (Col.8, Lines 16-17) in a state where the power supply to a portable equipment is off (Col.9, Lines 40-46); and to turn-on the power feed from the power supply (10) to a portable equipment, based on the data indicating that the forced discharge is completed (Col.4, Lines 62-63) (Col.7, Lines 62-67) (Col.8, Lines 1-2), the power is turned on when the temperature and voltage are within a predetermined threshold which will occur after a forced discharge.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Iwaizono in the device of Sakakibara to have prevented swelling of the power supply and deterioration of a life cycle (Col.10, Lines 6-11) and improve safety in charging/discharging of the power supply (Col.6, Lines 45-47).

10. Claim 4: Sakakibara and Iwaizono teach the limitations of claim 1 as discussed above. Sakakibara teaches the forced discharge portion further includes a switch (48) involved in the power feed from the power supply to a portable equipment; and the control portion (41) is configured to turn on the switch (48) when an abnormality of the power supply (58) is recognized (Par.68).

11. Claim 5: Sakakibara and Iwaizono teach the limitations of claim 4 as discussed above. Sakakibara teaches the control portion turns off the switch (48) when the voltage of the power supply detected by the voltage detection portion reaches a predetermined voltage after forcibly discharging (Par.68).

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12 Claim 11: Sakakibara and Iwaizono teach the limitations of claim 10 as discussed above. Sakakibara teaches a voltage detection portion (27) integrated with an equipment circuit (30) (Fig.6).

**13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakakibara et al. (U.S. Publication Number 2003/0178968) and Iwaizono et al. (U.S. Patent Number 6,714,882) as applied to claim 1 above, and further in view of Fasen (U.S. Patent Number 4,609,860).**

14. Claim 2: Sakakibara and Iwaizono teach the limitations of claim 1 as discussed above. Sakakibara teaches tuning on a display (44b) when an abnormality of the power supply is recognized and turning off the display (44b) when the voltage of the power supply detected by the voltage detection portion reaches the predetermined voltage (Par.59 and 68).

Sakakibara does not explicitly teach a switch coupled in series with the notification portion and coupled to the power supply together with the notification portion, and the control portion is configured to turn on and off the switch.

Fasen teaches a switch (64) coupled in series with a notification portion (65) and coupled to a power supply (14) together with the notification portion (65), and a control portion (62) is configured to turn on and off the switch (64) (Col.5, Lines 61-68) (Col.6, Lines 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Fasen in the device of Sakakibara to

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have had activated the notification portion with the passages current from the power supply (Col.5, Lines 61-68) (Col.6, Lines 1-2).

**15. Claims 7- 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakakibara et al. (U.S. Publication Number 2003/0178968) and Iwaizono et al. (U.S. Patent Number 6,714,882) as applied to claim 1 above, and further in view of Yoshida et al. (U.S. Publication Number 2005/0106455).**

16. Claim 7: Sakakibara and Iwaizono teach the limitations of claim 1 as discussed above. They do not explicitly teach an active material of a positive electrode of the lithium-ion secondary battery comprises nickel complex oxide.

Yoshida teaches an active material of a positive electrode of a lithium-ion secondary battery comprises nickel complex oxide (Par.3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Yoshida in the combination of Sakakibara and Iwaizono to have obtain a battery with excellent cycle life and safety (Par.3).

17. Claim 8: Sakakibara, Iwaizono, and Yoshida teach the limitations of claim 7 as discussed above. Iwaizono teaches the second voltage is not lower than 3.85V and not higher than 3.95V for each lithium-ion secondary battery (Col.8, Lines 16-17).

Iwaizono teaches forcibly discharging when the temperature is equal to or greater than 35°C and the voltage is equal or greater than 4V (Col.8, Lines 11-14).

In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. MPEP 2131.03

A temperature greater than 35°C allows for a temperature between 55°C and 65°C; and voltage greater than 4V allows for a voltage between 4.05V and 4.15V.

***Response to arguments***

18. Applicant's arguments filed May 20, 2010 have been fully considered but they are not persuasive. In response to applicant's argument that Iwaizono does not teach indicating that the forced discharge is completed, when the electric power from the power supply to the portable equipment is turned on.

Sakakibara teaches wherein the forced discharge portion includes a control portion (41) configured to make the memory portion store data indicating that forced discharge is completed when the forced discharge is completed (Par.69) and to make the notification portion notify a message indicating that the abnormality is avoided (Par.61).

Sakakibara does not explicitly teach the control portion configured to make the notification portion notify a message indicating that the abnormality has been avoided when the power feed from the power supply to the portable equipment for operation of the portable equipment becomes turned on.

Iwaizono teaches turning on the power feed from the power supply (10) to a portable equipment when the temperature and voltage are within a predetermined threshold (Col.4, Lines 62-63) (Col.6, Lines 16-19) (Col.7, Lines 47-50) (Col.8, Lines 7-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Iwaizono in the device of Sakakibara

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to have improved safety in charging/discharging of the power supply (Col.6, Lines 45-47).

In the combination of Iwaizono and Sakakibara it will be expected that the notification portion in Sakakibara will notify a message that the abnormality has been avoided when the power feed is turn on given that the forced discharge is completed (Par.68-69) and notified (Par.61) after the temperature and voltage are within a predetermined threshold.

19. In response to applicant's argument that Iwaizono fails to disclose recognizing an abnormality of the power supply when the electric power from the power supply to the portable equipment is off. Iwaizono teaches the power feed from the power supply to the portable equipment is interrupted (Col.7, Lines 64-67) (Col.8, Lines 1-2) (Col.9, Lines 40-44) and after this the force discharge portion recognizes an abnormality and begins forcibly discharging the power supply until the voltage and temperature are within a predetermined threshold (Col.8, Lines 7-19).

20. In response to applicant's argument that none of the cited references disclose a portable equipment which is operated by the power supply. Sakakibara teaches the battery pack is used to supply power to appliances (Par.8). Iwaizono teaches a load can be connected to the power supply (Col.4, Lines 45-47).

21. In response to applicant's argument that Sakakibara fails to disclose the control portion configured to turn on the switch for forcedly discharging the power supply when the abnormality of the power supply is recognized, and to turn off the switch when the

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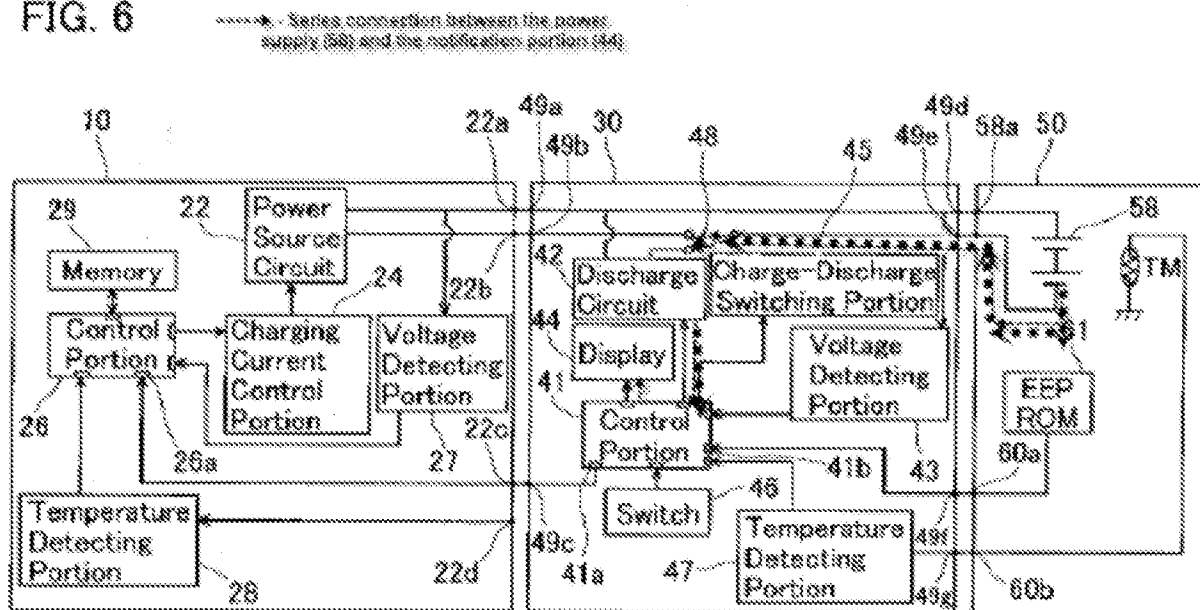
voltage of the power supply detected by the voltage detection portion reaches the second voltage.

Sakakibara teaches the control portion (41) is configured to turn on the switch (48) when an abnormality of the power supply (58) is recognized (Par.68) and it turns off the switch (48) when the voltage of the power supply detected by the voltage detection portion reaches a predetermined voltage after forcibly discharging (Par.68).

22. In response to applicant's argument that since the display of Sakakibara is not in series with the power supply, if the switch of Fasen were added to Sakakibara the switch would not be coupled in series with the power supply together with the notification portion.

Sakakibara teaches the display portion (44) is in series with the power supply (58).

FIG. 6



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23. In response to applicant's argument that the LED in Fasen does not notify a message indicating that an abnormality is being avoided. Fasen teaches a switch (64) in series with a notification portion (65) (Col.5, Lines 61-68) (Col.6, Lines 1-2).

Sakakibara teaches a notification portion (44b) that notifies a message indicating that the abnormality is being avoided while the power supply (58) is forcedly being discharged (Par.59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have had the teachings of Fasen in the device of Sakakibara to have had activated the notification portion by turning on a switch activated by the power supply (Col.5, Lines 61-68) (Col.6, Lines 1-2).

### ***Conclusion***

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHALI A. TORRES RUIZ whose telephone number is (571)270-1262. The examiner can normally be reached on M- F 10:00am-6:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward Tso/  
Primary Examiner, Art Unit 2858

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Examiner, Art Unit 2858